

BIBLIOGRAPHICAL NOTICES.

A Catalogue of British Fossil Vertebrata. By ARTHUR SMITH WOODWARD, F.G.S., and CHARLES DAVIES SHERBORN, F.G.S. Svo. xxv & 396 pages. Dulau and Co., London: 1890 (January).

THE Introduction gives a reasonable apology for the Vertebrates here catalogued being restricted to Britain, because British Palæontology may be taken as an epitome of that of the whole world; and, we presume, because a full European, and much more a world-wide, list would have little chance of being prepared and published just now. Earlier catalogues of more or less similar character are then mentioned; and, taking the geological formations in order from below upwards, the authors give historical notes on the localities, the finding, and the possessors of the most remarkable or interesting of the Vertebrate fossils either recorded or known to have been collected. At page vi it should have been stated that, although the Rev. W. S. Symonds gives in his 'Records of the Rocks,' 1872, p. 184, probably trusting to memory, the credit of discovering the oldest British Fish to Mr. J. E. Lee, and however the specimen referred to may be labelled, yet Mr. J. W. Salter describes it in the *Ann. & Mag. Nat. Hist.* July 1859, as having been lately found by Mr. Robert Lightbody (the well-known geologist, then living at Ludlow), when in company with Mr. Lee, of Caerleon, and as being in Mr. Lightbody's collection at that time. So also Mr. G. Augustus Coombe ought to have been mentioned in connexion with Mr. Dixon at p. xvii, and Mr. Simmons as a careful collector of Chalk fossils at p. xviii. The method of the arrangement of the names in the Catalogue, the meanings intended in the use of different kinds of lettering for accepted genera and species, for synonyms and cross-references, and for the known localization of type specimens (that is, such as were originally used for description, not necessarily zoological types), are carefully indicated, and the names of numerous kind friends, advising and helping, are mentioned at pp. xxiii and xxiv.

Next follow five pages of the valuable results of careful bibliographic industry, by Mr. W. H. Brown, in determining the dates of publication of the parts and plates and supplemental sheets of the '*Recherches sur les Poissons fossiles,*' by Louis Agassiz, Text, vols. i.-v., and Atlas, vols. i.-v. (1833-44), giving the right dates of publication for the genera and species described and figured therein; also of his '*Monographie des Poissons fossiles du Vieux Grès Rouge &c.,*' Text and Atlas (1844-45). The dates of the publication of Sir Richard Owen's '*Odontography*' (1840-45) have also been supplied by the same industrious bibliographer at p. xxix.

"A Table showing the Stratigraphical Distribution of the Genera of British Fossil Vertebrata," including a few known but not yet described, follows at pp. xxx-xxxv.

The rest of the book consists of the Catalogue itself, which demands the best attention and is worthy of the highest praise and recommendation that we can offer. It is a model for scientific bibliographers, thoroughly and conscientiously worked out in every respect, both as to literary and biological accuracy; and herein it stands high as a worthy successor (though within geographical and palæontological limits) to H. G. Bronn's well-known 'Index Palæontologicus.'

I. The Fishes (Pisces) have 198 pages, including a page of notes of their doubtful specimens and unknown species. II. The Amphibia and their miscellaneous fragments have 10 pages. III. The Reptilia, with their miscellanea and Ichneutes, occupy 92 pages. IV. The Aves and their miscellaneous entries have 9 pages. V. The Mammalia and their miscellanea 84 pages. There are also additional notes on localities, fishes, reptiles, &c. at pages 395 and 396.

As the Mammalia occupied only six pages in Morris's 'Catalogue of British Fossils' in 1854, and the whole Vertebrate group only forty-nine pages, we readily see how the number of known fossil forms has increased since that date. The more elaborate synonymy, however, partly from the more liberal plan adopted and partly from accumulation of descriptive memoirs, has had some influence in this necessary enlargement of the Catalogue.

What we have to find fault with is—(1) The absence of initial capitals to proper names and their adjectives, whereby much is lost of the history of the species, especially to beginners. Why such ultra-pedantic decapitation has ever been recommended it is difficult to say, except that the old Romans had their writing all made in letters of one size, and that modern printers have to reach a little further for "capitals" than for "lower-case" letters. The Linnean plan of giving capitals even to common nouns, if used for the species, as well as to proper names, is preferable, for it helps amateurs and beginners, and the lists have a less dull and formal appearance. (2) The frequent and arbitrary change of an author's terminology when the specific name, being in the genitive case, has ended with "ii," which termination is euphonious, good enough in itself, and quite in accordance with Latin names, of which as many end in "ius" as in "us." Uniformity cannot require the change, for there is no need of uniformity at all in this matter, any more than with the unfortunate guests of Procrustes. Curiously enough, when this change is made and noticed in the Catalogue, the original "ii" are placed in square brackets, thus [], as if this were the correction of a mistake, whereas it is correct and true by the right of the author of the specific term. (3) That *aspis*, as well as *lepis*, is really feminine, though used as a masculine word, might have been noticed at p. 395. (4) Excepting a pedantic "*levesiensis*" instead of "*Levesiensis*," an oversight in not giving E. Charlesworth the credit of being the first to name specifically *Coryphodon Colchesteri*, and the above-mentioned errors of judgment in occasional pedantry as to forms of nomenclature, we find no fault with this remarkably perfect and well-printed Catalogue.

Its clear and faultless printing on good paper, the trustworthy authority for the determinations, and the elaborate care taken with synonyms and localities, altogether make this book handy, easily consulted, and of exceeding value—indeed indispensable—to all geologists interested in or occupied with Vertebrate Fossils.

North-American Geology and Palæontology for the use of Amateurs, Students, and Scientists. By S. A. MILLER. Large 8vo, pp. 664. Cincinnati, Ohio: 1889. Dulau and Co., London.

THE first edition of this work was published in 1877 and duly noticed in the *Ann. & Mag. Nat. Hist.* ser. 5, vol. i. (January 1878) pp. 99–101. A “second edition” (so called, but in reality only a Supplement) was published early in 1883 (with a short preface, consisting mainly of extracts from letters of approval) and bound up together with a reissue of the first edition and an index to both in the same volume, making 334 pages (88 more than the first edition). The third edition, now before us, consisting of 664 pages, takes on a new feature by the reproduction of a great many (1194) woodcuts illustrative of Palæozoic genera and species found fossil in Canada and the United States. Eighty-five pages are occupied with an extended notice of Geology in general and the geological structure of North America in particular, worked up from the Reports of various State Surveys, which was confined to nineteen pages in the first edition. On the other hand, Prof. E. W. Claypole’s essay on the “Construction of Systematic Names in Palæontology,” pp. vii–xv in the first edition, has been modified into eleven dogmatic pages (90–100) on “Nomenclature.”

Introductory remarks and classifications are given for both the Vegetable and Animal Kingdom and for the Classes and Orders as far as their Palæozoic members are concerned. In the Molluseoida only the Bryozoa [Polyzoa, Busk] have a place, the Brachiopoda being relegated to the Mollusca.

Diagnoses of the genera are copied or attempted throughout, and many new genera and species, determined by the author himself, are included with figures.

It would have been well had the author given his attention to all the critical remarks offered in the review of his book in January 1878. We might even now repeat much of what was there stated, especially about diphthongs being often ignored and words and references in German and French being printed without a fit knowledge of these modern languages. Indeed, when the reader refers to the remarks on *Orophocrinus* versus *Codonites* at p. 265, he finds not only a characteristic sample of how German words are misprinted, but we see a sad example of narrow, dogmatic, and invidious treatment of the German language, of a German scientific periodical, and of a German palæontologist!

We think that Mr. S. A. Miller has acted very wisely in omitting his etymological explanations of the meaning of specific names from